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Cancer Surgery Wait Times Measurement in the Greater Toronto Area

A pilot study conducted by the Surgical Wait Time Program
December 2004

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Introduction

Approximately 80 percent of patients who develop cancer will require surgery.[1] Surgery is often the entry point into the cancer system, and waits for surgery can therefore impact the entire patient journey. Average wait times for patients include waiting for a consult with the surgeon, having all investigations completed, considering the recommendations and, finally, having the surgery. Overall wait times are influenced by the volume (number) of patients needing surgery, the availability of both physical and human resources for all the investigations and the surgery, and the local organization of health care delivery.

Comprehensive and timely data on surgical wait times have previously been unavailable. In April 2003, the Ministry of Health and Long-Term Care (MOHLTC) asked Cancer Care Ontario (CCO) to begin measuring and reporting on wait times for cancer surgery in Ontario. To lay the groundwork for province-wide wait times monitoring, CCO initiated a pilot project with eight hospitals in the Greater Toronto Area (GTA). The objectives of the pilot study were to test the feasibility of prospectively collecting data on wait times and the reasons for delays. The project included the development of forms for collecting dates of referral, consult, decision to operate, as well as date of operation for patients with breast, colorectal, gynecological, lung and prostate cancer. Information regarding reasons for delay beyond two weeks was also collected for the interval between consult and decision to operate, and beyond three weeks for the interval between the decision to operate and the operation. The maximum times were selected to correspond roughly with recommendations of the Canadian Strategy for Cancer Control (CSCC) and the Canadian Society for Surgical Oncology (CSSO).

Methods

Meetings were held with surgeons and their assistants in each hospital, following which data collection commenced in four of the hospitals in October of 2003, and in the remaining four hospitals in January of 2004. Staff from the CCO Provincial Office established liaisons with the surgeons' assistants in the participating hospitals and collected data from them, collated it centrally, entered into a database, and prepared reports which were then distributed to each of the hospitals. CCO carried out a detailed study out of reported surgery cases during the months of February, March and April 2004. This data was added to the information already being collected at two other hospitals. A validation of the data was conducted by comparing numbers of cases reported through pathology reports received by the Ontario Cancer Registry for the month of March, in order to

[1] Cancer Quality Council of Ontario. (2003). Strengthening the Quality of Cancer Services in Ontario, T Sullivan, W Evans, H Angus & A Hudson (eds.). Ottawa, ON: CHA Press.

determine what proportion of the total patients having cancers removed were being reported using this wait times collection methodology.

Following the collection and reporting of data, interviews were carried out with participating surgeons and their assistants to assess their understanding of the project, willingness to cooperate, perceptions of the problems around wait times and the data collection process itself.

Analysis of Data

There was considerable variation in the number of cases reported by each institution, ranging from 10 cases all the way up to 230, for a total of 812 cases at all institutions. This was partly related to the size of the institutions, but it was also evident that some of the variation was related to the level of surgeons' participation, and the capture and reporting of cases during the study period from February to April of 2004. The participation rate of surgeons who were eligible to be included in the pilot study because of their caseloads varied from 19% to 100% with an average of 59%. It was not possible to determine what proportion of individual surgeons' patients was registered.

The proportion of cases reported for the specified disease sites that had operations during March 2004, compared to those registered using pathology data, varied from 4% to 84% among the six institutions for which pathology data was available. This suggests that only about half of the patients who had cancer surgery at these institutions were being reported. The validation process revealed inconsistencies requiring detailed follow up, including chart review, which was not possible because of privacy issues. These inconsistencies included hospitals reporting more cancer cases than there were pathology reports to validate them.

One hospital initiated its own more broadly based wait times study including cancer, joint replacement, and cardiac surgery. This initiative was associated with a substantially higher participation rate in the provision of cancer wait times data than other hospitals in the study, suggesting that the involvement of hospital administration in making this a priority project might be important in the wider implementation of wait times data collection and reporting.

The overall wait times for the intervals a) referral to operation, and b) consult to operation, by disease site, are shown in Tables 1(a) and 1(b), respectively. The differences in wait times reported between disease sites may in part be explained by differences in staging procedures and preoperative investigation required for different cancers. In the case of prostate cancer, there may also be a more deliberate process of consultation between patient and physician, and/or consideration of alternatives to surgery. The wait times are reported as median and 90th percentile wait times. The numbers are similar to those previously reported by others.[2,3] The total number of patients is significantly less in Table 1(a) than 1(b) because the date of referral was not possible to obtain for many patients.

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[2] Simunovic M, Gagliardi A, McCready D, Coates A, Levine M, DePetrillo D. (2001). A snapshot of waiting times for cancer surgery provided by surgeons affiliated with regional cancer centres in Ontario. CMAJ 165(4):421-425.

[3] Cancer Care Ontario. Budget, Responsibility, Accountability: Addressing Cancer Surgery Waiting Times in Ontario. Unpublished document. Presented to the Ministry of Health and Long-Term Care, March 24, 2003.

Table 1.

Cancer Surgery Wait Times Overall (All Hospitals, February-April 2004)

1(a) Interval: Referral To Operation

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	255	32.0	71.0
Colorectal	116	28.0	78.0
Gyne	17	45.0	97.0
Lung	47	44.0	96.0
Prostate	51	65.0	126.0

1(b) Interval: Consult To Operation

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	359	26.0	62.0
Colorectal	176	20.5	62.0
Gyne	125	39.0	62.0
Lung	56	32.5	90.0
Prostate	66	59.0	98.0

Tables 2 and 3 show the wait times by month for the intervals a) referral to operation, and b) consult to operation. There is considerable variation from month to month in the median wait times reported for both intervals.

Table 2.

Cancer Surgery Wait Times - Referral to Operation by Month (All Hospitals)

2(a) February 2004

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	83	28.0	68.0
Colorectal	39	29.0	75.0
Gyne	6	55.0	97.0
Lung	24	64.5	96.0
Prostate	18	69.5	116.0

2(b) March 2004

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	107	28.0	71.0
Colorectal	38	23.5	50.0
Lung	15	41.0	104.0
Prostate	21	53.0	111.0

2(c) April 2004

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	65	35.0	74.0
Colorectal	39	29.0	104.0
Gyne	11	40.0	61.0
Lung	8	35.0	74.0
Prostate	12	89.0	134.0

Table 3.

Cancer Surgery Wait Times - Consult to Operation by Month (All Hospitals)

3(a) February 2004

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	123	26.0	71.0
Colorectal	56	19.0	61.0
Gyne	47	43.0	70.0
Lung	24	56.0	90.0
Prostate	22	58.5	89.0

3(b) March 2004

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	137	22.0	59.0
Colorectal	56	20.5	64.0
Gyne	34	38.5	55.0
Lung	17	36.0	99.0
Prostate	24	49.0	104.0

3(c) April 2004

Diagnosis	Obs N	Median (days)	90th Pctl (days)
Breast	99	27.0	64.0
Colorectal	64	22.0	59.0
Gyne	44	36.5	71.0
Lung	15	12.0	47.0
Prostate	20	64.0	121.5

Graphs were developed using the combined hospital data for the months of February to April 2004 to indicate the cumulative rate at which patients were completing the interval between referral and operation (Figure 1) and consult and operation (Figure 2). For each disease site, horizontal lines show the median and 90th percentile time to completion of the interval. The graphs can also be used to show the percentage of patients completing the interval in any selected time. For example, the vertical line in Figure 2 shows the percentage of patients receiving their operation within five weeks of the consult date, by disease site. If five weeks following the consult was the benchmark time for 90% of patients to have had their operations, the graph shows that many patients had to wait longer than that time (breast cancer 31%, colorectal cancer 27%, gynecological cancer 58%, lung cancer 45%, prostate cancer 67%).

The reasons stated for delays beyond the specified intervals are shown in Tables 45 and 56 respectively. In the first interval, 21% of patients experienced delays. The most common problems were in obtaining bookings for biopsies and other diagnostic tests, and waiting for pathology results. In the second interval, over 35% of patients experienced delays, the majority of these (25%) resulting from problems in obtaining operating room (OR) bookings. Patients whose delays were due to patient choice or neoadjuvant chemotherapy were not included in the calculations of the wait times reported.

Surgeon Interviews

Thirteen surgeons were interviewed by telephone at the end of the study. Many recognized the problem of wait times and had engaged in ad-hoc patient management and prioritization in order to deal with wait times within their practices. Most of the surgeons interviewed understood the need for collecting wait times data and appreciated the potential benefits in terms of identifying barriers to access, fostering change in processes, justifying increased resources, and eventually facilitating redirection of patients. With few exceptions, however, the surgeons themselves did not participate in the data collection or reporting process. The work was done almost entirely by surgeons' secretaries or administrative assistants. The surgeons estimated that the time taken was between 10 to 20 minutes per patient registered. Most surgeons did not report any problem in providing the information, but did recognize that there was considerable pressure to get other higher priority work done in their offices. Most surgeons interviewed believed that between 90% and 100% of their patients were being reported, although the data would suggest that the percentage was actually much lower.

Approximately half of the surgeons interviewed had Internet access and email, either in their offices or in their hospitals, although not all used this access. Roughly the same number of their assistants also had electronic access. About a third of surgeons worked in hospitals with an electronic patient management system, and several other hospitals were in the process of installing one. Approximately half of the surgeons used an informal system to give priority to their cancer patients, both for consult bookings and operating time. As a result, their patients with benign disease were having increasing difficulty with longer wait times. The flexibility of this informal prioritization system was only available to surgeons who saw significant numbers of patients with benign disease.

Figure 1. Cancer Surgery Wait Time Completion Curves: All Hospitals

Interval: Referral to Operation

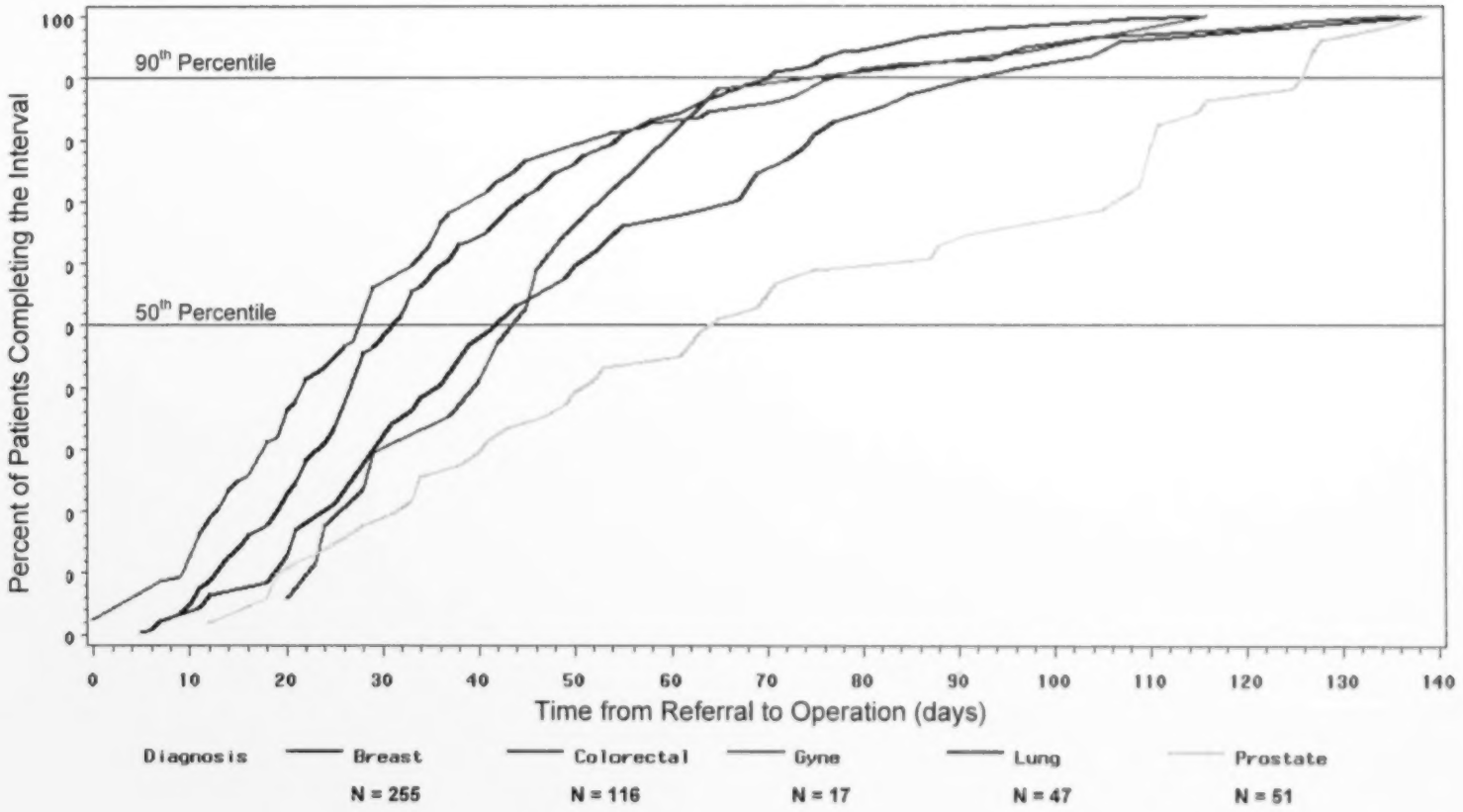

Figure 2. Cancer Surgery Wait Time Completion Curves: All Hospitals

Interval: Consult to Operation

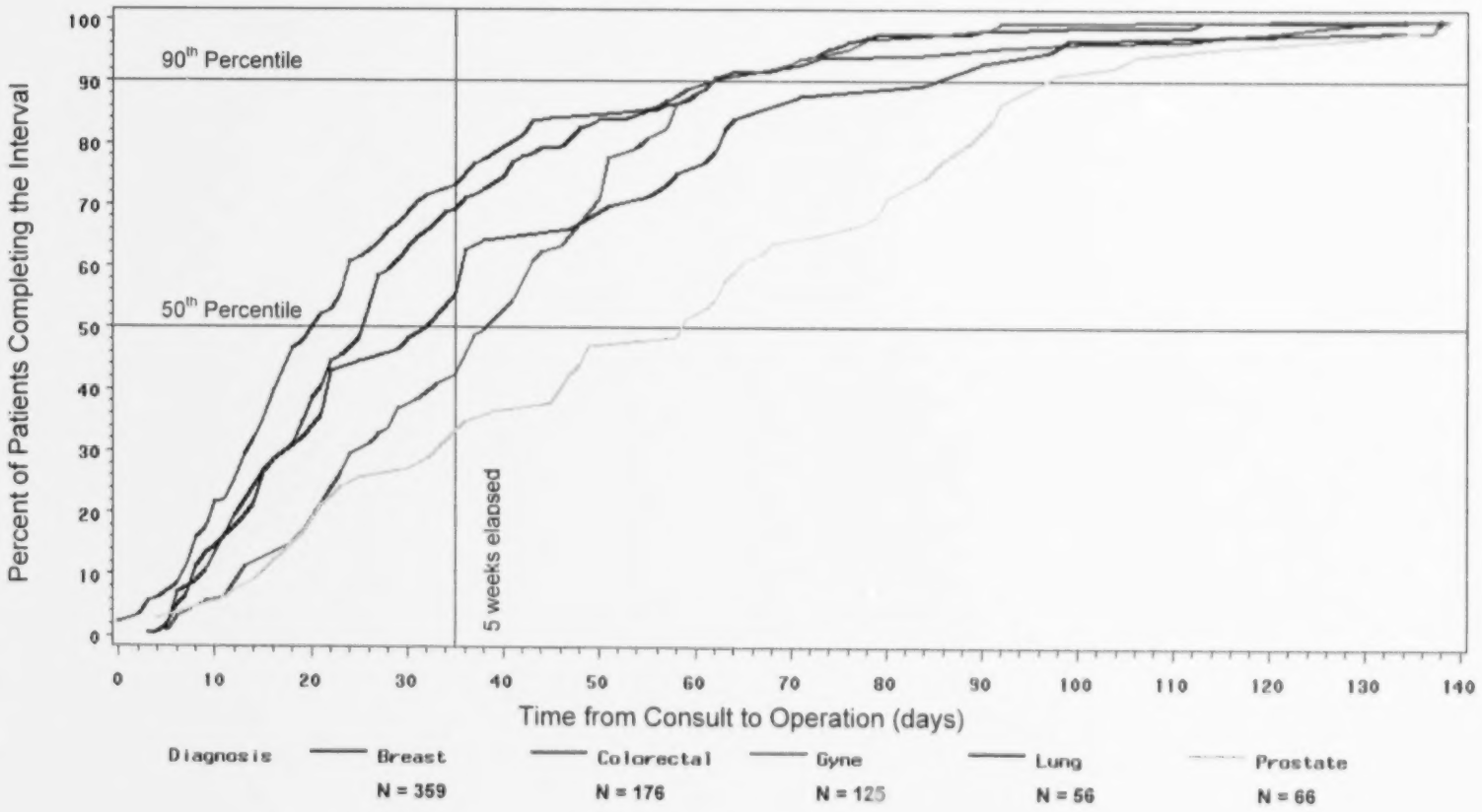

Table 4.

Cancer Surgery Wait Times - Reasons for Delay - Consult to Decision to Operate
(All Diagnoses; February-April 2004)

Delay: Consult To Decision	Cases	Percent
No Delay	586	72.17
Biopsy Booking	43	5.30
Diagnostic Booking	34	4.18
Pathology Results	27	3.32
Medical Issue	17	2.10
Clinical Staging	15	1.84
Other	38	4.68
Patient Choice*	40	4.93
Neoadjuvant Treatment*	12	1.48

*These cases excluded from wait times calculations

Table 5.

Cancer Surgery Wait Times - Reasons for Delay - Decision to Operate to Operation
(All Diagnoses; February-April 2004)

Delay: Decision to Operation	Cases	Percent
No Delay	461	56.77
O.R. Time	199	24.51
Diagnostic Booking	21	2.69
Medical Issue	18	2.22
Holiday	13	1.60
Other	36	4.42
Patient Choice*	50	6.16
Neoadjuvant Treatment*	14	1.72

*These cases excluded from wait times calculations

Assistant/Secretary Interviews

Twenty assistants or secretaries were interviewed. These people were the main route of communication with surgeons' offices, and the success of data collection depended largely on their willingness to cooperate. Most had a reasonably good understanding of the purpose of the study. The majority carried out all the tasks by themselves, though some consulted the surgeons periodically, especially regarding reasons for delays or clarification of diagnosis. The quality of the information provided and the guidance and support from the staff at CCO were considered to be

good to excellent. The main problem encountered by the assistants was finding time amongst a large number of other pressing priorities. The average amount of time spent by the assistants was estimated to be 15 minutes per patient. The most difficulty was encountered in finding original referral dates and in determining the reasons for delay. There was a wide range of degrees of cooperation from assistants, from enthusiastic full cooperation to complete refusal to do the work, even if the surgeon was willing. Fortunately, the curve was skewed towards the cooperative end.

Summary of Barriers to Complete Data Collection

1. Time – finding time to do the work seemed to be the most pressing problem for both surgeons and their assistants. This project is just one more task among many others that pack a busy schedule.
2. Availability of information – dates of consult and operation are easily available in the office, but assistants have more difficulty in determining the date of referral and the date of decision to operate since these are not ordinarily recorded and require extra effort to determine. Inexperienced assistants also have difficulty in determining which patients have cancer and which operations are treatment-directed cancer operations.
3. Motivation – most participating surgeons were very supportive, but the actual data collection and reporting was left to their assistants. Most assistants were cooperative within their abilities and time constraints. Without a high degree of cooperation and prioritization, both by surgeons and their assistants, this method of data gathering is unlikely to provide complete information.
4. Lack of organization in office/clinic – The potential for better data collection exists in specific cancer clinics where there is experience in managing protocols. Some existing systems however may make it more difficult to obtain data if certain data points are not routinely recorded (e.g. date of referral, decision to operate). The lack of specific job descriptions sometimes left no one responsible for the data collection since the project was dependant on voluntary participation.

Conclusions

Feasibility of collecting data on wait times and reasons for delay

1. There is considerable interest and cooperation among surgeons, but only a 60% participation rate of eligible surgeons could be verified in the study. The reasons cited for non-participation included time constraints, disinterest, or too few cancer patients.
2. The validation study suggested that less than 50% of cancer operations were being reported, which substantially reduced the accuracy of the resulting wait times data. This under-reporting also made it impossible to use these data for tracking volumes of cancer surgery, information that is essential for interpreting the significance of wait times data.
3. Among participating surgeons, collection of wait times data was assigned to secretaries or assistants. Although these secretaries/assistants recognized the importance of collecting these data, they give it a low priority because of other responsibilities.

4. Both participation rates of surgeons and reporting rates varied considerably between hospitals independent of hospital status (academic health science centres versus community hospitals). Participation and reporting rates also varied from month to month depending on individuals' time constraints and priorities, leading to delays in data transfer and inconsistencies in case reporting rates.

5. Current methods of data collection are neither sufficiently reliable nor sustainable to be continued as a long-term strategy. A more sustainable and reliable collection methodology than reliance on surgeons and their personal office staff manually collecting data is required for future collection of wait times data.

Wait times for cancer surgery in the GTA

1. The reported median wait times for the diseases studied were in keeping with other recent reports of surgical wait times in Ontario.[4,5] The data also suggested that large numbers of patients were waiting longer than the times recommended by CSCC and CSSO. Because the reporting was incomplete and the sample size was very small in some hospitals, these data might not accurately reflect the true wait times.

2. Reasons given for delays were predictable from clinical experience
   a) From consult to decision to operate: these were mainly access to diagnostic tests including biopsies and pathology reporting.
   b) From decision to operation: these were mainly access to operating rooms.

3. To address long wait times, many surgeons already prioritize cancer patients, using strategies that give cancer patients priority for consult appointments, staging investigations, and operating room time over patients with benign disease. This local cancer prioritization is easier for surgeons who see large numbers of patients with benign disease than those with predominantly cancer practices. This may have the unfortunate side effect of progressively increasing the wait times for patients who have benign disease.

Recommendations

1. Collection of wait times information for cancer surgery should continue. Collection of wait times data is feasible and should be expanded province-wide. This is an important step in improving access to surgical care, and is a priority for Cancer Care Ontario and the Ministry of Health and Long-Term Care.

2. The responsibility for collecting wait times information should be transferred from surgeons' offices to the hospitals. This should ideally be done electronically by incorporating the required information into the processes of care documentation. Until such electronic systems are in place, the data collection should be done by dedicated individuals in the hospitals with the full cooperation of the surgeons and their assistants. This should be coordinated by Cancer Care Ontario.

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[4] Simunovic M, Gagliardi A, McCready D, Coates A, Levine M, DePetrillo D. (2001). A snapshot of waiting times for cancer surgery provided by surgeons affiliated with regional cancer centres in Ontario. CMAJ 165(4):421-425.

[5] Cancer Care Ontario. Budget, Responsibility, Accountability: Addressing Cancer Surgery Waiting Times in Ontario. Unpublished document. Presented to the Ministry of Health and Long-Term Care, March 24, 2003.

3. Data should be collected in a regular and efficient manner. Data to be collected should include: a) the three intervals currently being studied, reported as median times and 90th percentiles, b) the reasons for exceeding benchmark times, and c) the volume of operations by disease site and surgical specialty. More specific data regarding each of the commonly reported barriers will be required in order for specific steps to be taken to improve the processes of care.

4. Data should be reported regularly. Because of month-to-month variations, data should be reported monthly on a three month rolling basis to each hospital, the Ministry of Health and Long-Term Care, and the public.

5. A process should be put into place in each centre to use the data to guide patient access improvement efforts. This could take the form of a hospital-based patient access committee consisting of surgeons, physicians, nurses, administrators, and public representatives. This type of committee could address issues across disease entities and need not be restricted to addressing issues for cancer patients only.

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